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ABSTRACT

The Montessori approach is briefly described, and modified tasks for educating the handicapped child are outlined. Reviewed is Montessori's influence on five areas of general education: the engineered classroom, individualized instruction, task analysis, nongraded or ungraded classrooms, and humanistic education. Developmental tasks are offered for attention, practical life experiences, and sensorial experiences. (SBH)

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The Montessori Approach to the Education of the Exceptional Child - Early Childhood Through High School

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At the turn of the century Dr. Maria Montessori proclaimed "The Century of The Child." With a spirit of reform she launched a unique educational movement to liberate the child and individualize education. She scaled her program to suit the size, needs and interests of the child. On the basis of her experience with young children she introduced the use of imaginative self-correcting materials which enable the child to learn at her/his own speed as well as learn from observing their own mistakes. Montessori reported that the introduction of structure into the learning experience, the "prepared environment," encouraged children to organize and systematize the learning experience and assume a measure of self-confidence and independence as a result. The Montessori curriculum incorporates meaningful and real activities called "practical life experiences." These activities are not play; they require the use of genuine equipment and not toys although the size has been geared to the child's size and strength. Such an opportunity to engage in adult type activities with real tools--washing, cleaning, cooping, polishing, woodworking--leads to the acquisition of attention, order and care. The role of the Montessori teacher is not to teach but to observe the child and assist when necessary. Acting as an observer the teacher can better understand child behavior, and consequently can accept the child as the unique person he/she is, different from other children in his/her feeling, needs, desires and competencies. Each learning experience, regardless of its final complexity and abstractness, is introduced by means of sensorial and perceptual-motor tasks. All of the senses are systematically stimulated:

1. Visual perceptual-motor--exploration of size, form, color, texture cues.
2. Auditory perceptual-motor--experimentation with rhythm, tones, tempi.
3. Olfactory and gustatory--comparisons of tastes and odors.

These sensory-motor experiences are "tied to" their language counterparts by means of Montessori's "Three Period Lesson." The instruction of morphology, semantics, and syntax is integrated with object manipulation in order to provide sound percepts and concepts. Although this will be discussed later, during the slide show, for those who are unfamiliar with The Three Period Lesson--and exceptional children many require many more periods--here is a sample sequence that involves the learning of semantics.

First Period--the teacher associates the quality and its label. For example: Two contrasting colored spools, red and blue, are offered to the child who is told the purpose of the task, learning the color names.

The teacher identifies each spool: "This spool is red." "This spool is blue."

Second Period--the child demonstrates his/her association of quality with its label by selecting the correct spool from a choice of red and blue spools.

The teacher requests: "Give me a spool that is blue." "Give me a spool that is red." (The syntax has been deliberately simplified for children with delayed or deficient language.)

Third Period--the child identifies verbally, or in the case of nonverbal children the response is with gesture, the spool chosen by the teacher.

The teacher asks: "Which spool is this?"

I am not interested in nor do I intend to engage in the debate between the orthodox Montessorians who are called Purists and the modern or moderate Montessorians who are accused of being deviationists. In principle, the purists want to maintain Montessori education as it was conceived almost 80 years ago. In contrast, the moderates are of the opinion that since Montessori was a revoluntionary in education, if she were alive today her thinking and practices

would be congruent with contemporary knowledge and society.

Before going on to discuss special education specifically, let us examine Montessori's influence on education generally.

1. The Engineered Classroom

The Engineered Classroom ressembles Montessori's "Prepared Environment" which is organized around activity centers that are especially designed to encourage and promote ORDER. It has been hypothesized by certain American educators that the organization of such centers will assist children to develop and internalize structure and order. What are the nature of these activity centers? The Mastery Center where academic tasks are offered; the Exploratory Center which contains an array of manipulative learning materials for the pursuit of scientific explorations, art and communication; the Order Center which is reserved exclusively for specialized supportive, one-to-one instruction. The expectation is that independent learning in each center will help the child to develop self-discipline and self-confidence.

2. Individualized Instruction

When we individualize the instruction, we provide a positive, enriching learning experience for each child, including those who are "mainstreamed"--the learning disabled, behaviorally disordered, physically handicapped, dear, blind and retarded--when the instruction and its level are suited to each learner. All children are Helped-To-Help Themselves!

3. Task Analysis

In order to identify the appropriate level of instruction which is particularly important for the exceptional student, as well as to offer successful experiences, the educational task is examined for all its components, and subsequently the

task is introduced in its least complex form. Successive steps are offered in small increments, and the children graduate from the use of didactic self-correcting materials to the use of more abstract concepts.

4. Nongraded or ungraded Classrooms

Such classrooms are organized to permit the incorporation of different ages, as much as three to four years. The design of the classroom Centers encourages children to choose freely from appropriate choices of subject matter (math first, reading later); they may also select the Group where the learning experience is most congruent with their competencies and abilities. (Given a choice, most children and this includes exceptional children, select the level where they function best.) Under such an arrangement children feel no stigma because they prefer to learn with younger children. Furthermore, they may change Groups for different content areas. (A child with an uneven educational profile is able to develop maximally under these conditions.) Since the emphasis is upon self-development rather than externally imposed rewards, there is cooperation among children--older children help younger; slower children watch and learn from advanced classmates.

5. Humanistic Education

Montessori considered humanistic education a cornerstone of her theory. The development of values or moral development, her label, is acquired by the child in an atmostphere of respect and trust. Children know that they may communicate their desires and frustrations without reproach, and they are encouraged to consider the consequences of their behavior before taking action. Through concrete work experiences they search for appropriate alternatives, making every effort to make proper judgements and become the best person they can be.

The slide presentation follows a sequence consistent with child development but picturing mentally retarded, physically handicapped and learning disabled receiving a Montessori adapted education. The tasks are modified when necessary to meet the child's functional level and varied in order to offer the necessary redundancy for internalizing the percept or concept being taught. We are constantly confronted with the criticism that what we teach exceptional children is not generalized; they do not transfer their learning from classroom to home or from teacher to teacher. The objective in Montessori education and variations of Montessori didactic materials is to help the child transfer knowledge. After the basic instruction, many similar but not identical experiences to teach the percept or concept are offered. We want children to know that there are alternatives, many ways to do the same task and the fact that many different tasks may be performed essentially the same way.

I. ATTENTION TASKS

a. "Take and Put"

Materials: metal coffee can and squeeze type clothespins.

Procedure: The child is invited to reach out and grasp the clothespin and "pin" it on the spot on the rim that you indicate with your finger.

Control of Error: A misplaced pin will not touch your finger.

Variation shown of the slide: a large white circular disk held in space.

b. "Put It Here"

Materials: Narrow mouth container and an assortment of objects made of wood, metal, plastic.

Procedure: The child is invited to pick up each object and deposit it into the container.

Control of Error: The absence of sound from the container indicates that the object missed its goal.

Variations of the slide: putting toothpicks into the holes of a salt shaker; garbanzas into bowl.

c. "Take and Squeeze"

Materials: Gift wrap of plastic bubbles

Procedure: The child accepts and then holds the plastic sheet with one hand and squeezes a bubble with the other hand, namely the thumb and forefinger.

Control of Error: Inadequate or misplaced squeeze will not elicit a popping sound.

Variations of this slide: Using a stylus instead of fingers to break the bubbles; introducing smaller type bubble.

d. "Take and Push"

Materials: Dowel rod and forms with holes in the center.

Procedure: The child takes a form from the teacher and pushes it onto the rod. Each form is offered in a different quadrant of space (up, down, left of midline, right of midline.) The rod is moved selectively in order to force the child to cross the midline of the body.

Control of Error: The child fails to get the form on the rod--there is an empty rod.

Variation of this slide: The child holds the rod in his/her hand, and spears the forms which are held by the teacher in different spatial locations each time.

Additional variation: The child uses the left hand as well as the right hand, and observes and compares the relative efficiency.

II. Gatehouse Learning Centre, London, England

The following slides illustrate some of the activities in the curriculum of the Gatehouse Learning Centre.

A. Practical Life Experiences

House, Building and Outdoor Maintenance:

Gardening	Animal Care
Cooking	Vacuuming
Sewing	Sweeping
Polishing	Sawing, hammering, and
Eating	woodworking
Pouring	

B. Sensorial Experiences

Investigations of the Physical and Logical World through exploration and discovery. (The intention of sensorial experiences is not to sharpen the senses physically but rather to help the child to understand and know what he/she feels, sees, hears, etc.) Initially strongly contrasting sensations and perceptions are introduced. Later, more subtle ones are offered. Always they are associated with their language counterpart and occur within a meaningful hands-on experience.

Examples shown on the slides:

Pink Tower Broad Stair Long Stair Cylinders	All of these are designed to help the child learn relative dimensions: length, height, diameter and combinations of these.

Sound Boxes - designed to alert children to differences in tones, their loudness qualities and frequencies.

Art - chalkboard "scribbling" with chalk and house-type paint brush.

Geography - puzzles of the world, countries, states, cities.

Science - the effects of fluid on objects; the effects of movement on objects.

C. Language Experiences

Receptive language Enhancement Vocabulary Enrichment Syntax Expansion Verbal Expression, generally	All language experiences are taught in meaningful activities-of-daily living: eating, housecleaning, working outside the home, travelling.
Non-oral Communication:	Creative writing, pantomine, drama, dress-up, language boards and mime.

D. Quantification - didactic materials and symbols used to:

Measure Predict

Compare Record Achievement (used by child and staff)

Analyze

E. Recreation and Self Development

Gross motor skills are learned through the following spatial-temporal activities:

1. Locomotion: walking, running, sliding, gliding, hopping, skipping, jumping, rolling, climbing, dodging.
2. Non-locomotion: pushing, pulling, swinging, swaying, stretching, twisting, turning, bending, lifting.
3. Receipt and Propulsion: kicking, throwing, striking, dribbling, catching, trapping, punting.
4. Body Coordination: body parts employed singly, paired, alternatingly.

Percepts and concepts acquired as a result of the above experiences:

1. Spatial: up/down, front/back, left/right, in/out, around/between, off/on, above/below, near/far, same/different, upper/lower, big/little, high/low, straight/crooked, wide/narrow, forward/backwards.
2. Temporal: fast/slow, now/later, start/finish, stop/start, before/after, sooner/later, in-a-little while/pretty soon, ordinal positions.

In summary: Maria Montessori was not interested in a curriculum attached to specific chronological age or grade level. Rather she was concerned with the nature of learning; the sequential and spirally effects of the acquisition of knowledge. Consequently, the Montessori program offers any child regardless of age, physical or mental limitations, a developmental curriculum upon which to grow, build, advance. Learning and discovery are paired in order to make the learning experience functional. The use of redundancy instead of drill is a diagnostic teaching technique which militates against the accummulation of "splinter skills" so commonly observed in exceptional children. Montessori education is an eminently practical choice for early intervention because of its basic principle of the use of the environment for "practical-life and sensorial" experiences.